

Description

ORALITE® Rail Gate Arm Sheeting is a Type V microprismatic retroreflective sheeting. The sheeting is a tough, weather-resistant product designed for rugged outdoor use in rail gate arm conspicuity applications.

The sheeting meets the requirements of the US DOT FHWA Manual on Uniform Traffic Control Devices (MUTCD) – 2009 Edition per Section 8C.04 Paragraph 05 stating “Gate arms shall be fully retroreflectorized on both sides and shall have vertical stripes alternately red and white at 16-inch intervals measured horizontally.”

Product Construction

The sheeting is composed of cube corner (microprism) retroreflective elements integrally bonded to a flexible, smooth-surfaced, tough and weather-resistant UV stabilized polymeric film. The resulting film is not more than 0.008 inch thick and comes with an aggressive high-tack pressure sensitive adhesive.

Reflectivity

ORALITE® Rail Gate Arm Sheeting shall comply with the Type V requirements in ASTM D4956-09⁸¹ and meet or exceed the minimum coefficient of retroreflection shown in Table 1. The sheeting shall be measured in accordance with ASTM E810. Rotation angles of 0° and 90° are measured and averaged.

Color

ORALITE® Rail Gate Arm Sheeting is available in a 16” alternating red and white block pattern as prescribed by the MUTCD. The colors conform to the requirements in Table 2 when tested in accordance with ASTM practices E308 and E1164 and standards E1347 and E1349. The measured values are the average of eight readings. The test sample is rotated 45° about its own axis after each reading.

Adhesive

The adhesive is protected by a release liner which shall be removed by peeling, without soaking in water or other solvents. The adhesive produces such a bond that a 1” (50 mm) strip shall support a 1 3/4 pound (0.79 kg) weight for 5 minutes without the strip peeling for a distance of more than 2” (50 mm) when applied to a smooth aluminum surface as specified in the ASTM D4956, section 7.5 adhesion test.

Impact Resistance

Following application to a smooth surface aluminum rectangle, 0.020 inch by 3 inch by 6 inch, the specimen is conditioned for 24 hours at 72°F and 50% relative humidity. The sheeting shall show no cracking when the face of the panel is subjected to an impact of a two pound weight with a 5/8 inch rounded tip dropped from a 100 inch pound setting on a Gardner variable impact tester, IG-1120.

Flexibility

The sheeting is conditioned for 24 hours at 72°F and 50% relative humidity. The release liner is removed and the sheeting is sufficiently flexible to show no cracking when bent in one second’s time around a 1/8 inch diameter mandrel with the adhesive contacting the mandrel.

Solvent Resistance

ORALITE® Rail Gate Arm Sheeting meets the requirements of LS-300C solvent resistance, Section 3.6.7, when tested as specified in Table VI, test method 4.4.6.

Specular Gloss

The sheeting shall have a specular gloss of not less than 40 when tested in accordance with ASTM method D523 at an angle of 85°.

Shrinkage

A 9 inch by 9 inch specimen of the sheeting with liner is conditioned a minimum of one hour at 72°F and 50% relative humidity. The liner is then removed and the specimen is placed on a flat surface with the adhesive side up. Ten minutes after the liner is removed and again after 24 hours, the specimen is measured to determine the amount of dimensional change. The specimen will not shrink in any dimension more than 1/32 inch in 10 minutes and 1/8 inch in 24 hours.

Application Instructions

ORALITE® Rail Gate Arm Sheeting is of monolayer construction. The material can be cut and trimmed to fit as necessary. No edge sealing is required. For best results the surface should be smooth, clean and dry at temperatures ranging from 50°F to 100°F.



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Warranty

10 year limited warranty
Contact your ORAFOL Americas representative for details.

Table 1, Coefficient of Retroreflection[†](R_A)

Observation Angle	Entrance Angle	White	Red
0.20°	-4°	700	120
	30°	400	72
0.50°	-4°	160	28
	30°	75	13

[†] Candelas/Lux/Square Meter

Table 2, Color Specification Limits (Daytime)

Color	Chromaticity Coordinates*								Luminance Factor (Y%)	
	1		2		3		4		Min.	Max.
	x	y	x	y	x	y	x	y		
White	0.303	0.300	0.368	0.366	0.340	0.393	0.274	0.329	15.0	----
Red	0.648	0.351	0.735	0.265	0.629	0.281	0.565	0.346	2.5	11.0

* The four pairs of chromaticity coordinates determine the acceptable color in terms of the CIE 1931 Standard Colorimetric System measured with Standard Illuminant D65.

Film Logo Pattern



Note:

All ORALITE® products are manufactured within an ISO 9001:2015 controlled manufacturing environment and batch traceability is possible on the basis of the roll number.

IMPORTANT NOTICE

When using ORALITE® sheeting, please comply with relevant national specifications. ORAFOL® recommends obtaining the current requirements from your local authority and ensure product conformance with such requirements. Please contact ORAFOL® for further information.

All ORALITE® products are subject to careful quality control throughout the manufacturing process and are warranted to be of merchantable quality and free from manufacturing defects. Published information concerning ORALITE® products is based upon research which the Company believes to be reliable, although, such information does not constitute a warranty. Because of the variety of uses of ORALITE® products and the continuing development of new applications, the purchaser should carefully consider the suitability and performance of the product for each intended use, and the purchaser shall assume all risks regarding such use. All specifications are subject to change without prior notice.



WARNING – This product may expose you to chemicals which are known in the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to – www.P65Warnings.ca.gov

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